



US005596333A

United States Patent [19]**Bruckert**[11] **Patent Number:** **5,596,333**[45] **Date of Patent:** **Jan. 21, 1997**

[54] **METHOD AND APPARATUS FOR
CONVEYING A COMMUNICATION SIGNAL
BETWEEN A COMMUNICATION UNIT AND
A BASE SITE**

[75] **Inventor:** Eugene J. Bruckert, Arlington Heights,
Ill.

[73] **Assignee:** Motorola, Inc., Schaumburg, Ill.

[21] **Appl. No.:** 298,918

[22] **Filed:** Aug. 31, 1994

[51] **Int. Cl.⁶** **G01S 3/02**

[52] **U.S. Cl.** **342/457; 342/450; 455/54.1;
455/277.1**

[58] **Field of Search** 342/357, 463,
342/450, 457; 455/54.1, 277.1, 33.1; 340/991,
989

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Primary Examiner—Thomas H. Tarcza

Assistant Examiner—Dao L. Phan

Attorney, Agent, or Firm—Daniel C. Crilly; Kevin A. Buford; Jeffrey G. Toler

[57] **ABSTRACT**

A communication system (100) employs a method (600) and apparatus (101) for conveying a communication signal between a communication unit (105) and a base site (101) that services a sectorized coverage area (103). The communication unit (105) transmits an uplink communication signal (113) to the base site (101). The base site (101) receives (603) the uplink communication signal (113) and determines (605) an approximate location of the communication unit (101) within a first portion (111) of a sector (108) of the sectorized coverage area (103). A downlink communication signal is then transmitted (609, 613) to the communication unit (105) based on the approximate location of the communication unit (105) using an antenna structure that produces a beamwidth (117) narrower than an angular width of the sector (108).

base
locator
narrower
beam

32 Claims, 6 Drawing Sheets

